

FIG. 1

DOWERSKY DEFENDE

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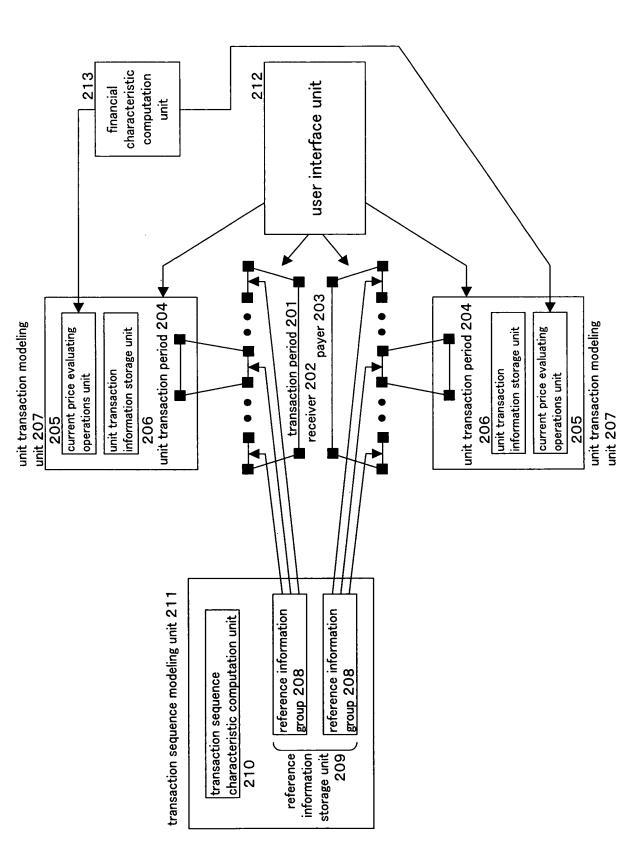
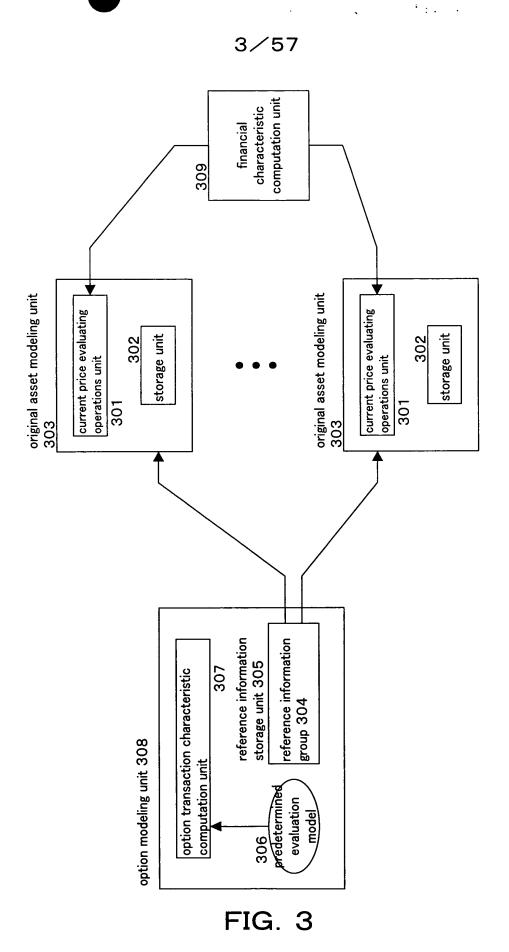


FIG. 2

i.,



DOWESTYL DEFECT

FIG. 4

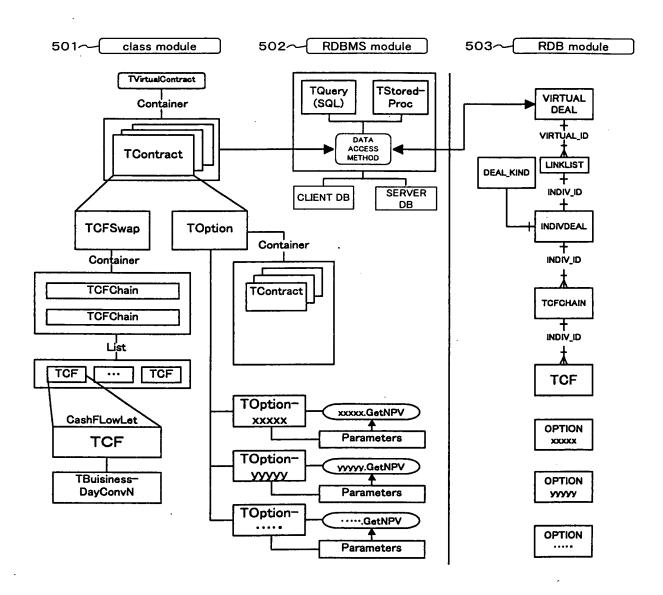


FIG. 5

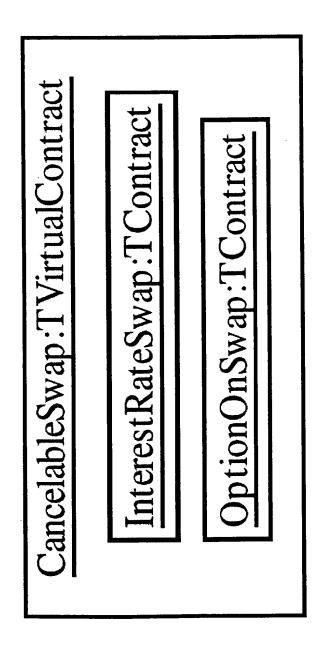


FIG. 6

InterestRateSwap:TVirtualContract erestRateSwap:TContract

FIG. 7

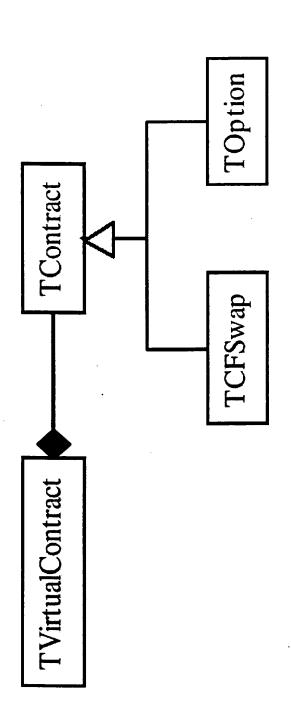


FIG. 8

#### InterestRateSwap001

TRANSACTION TYPE: INTEREST

**SWAP** 

CONTRACT WITH: ABC BANK

**EFFECTIVE DATE: 19XX MONTH DAY** 

CONTRACT PERIOD: Y YEARS FROM

EFFECTIVE DATE

AGREED RATE: z%

NOTIONAL PRINCIPAL: 1 BILLION YEN

#### InterestRateSwap002

TRANSACTION TYPE: INTEREST

**SWAP** 

CONTRACT WITH: DEF BANK

**EFFECTIVE DATE: 19XX MONTH DAY** 

CONTRACT PERIOD: Y YEARS FROM

**EFFECTIVE DATE** 

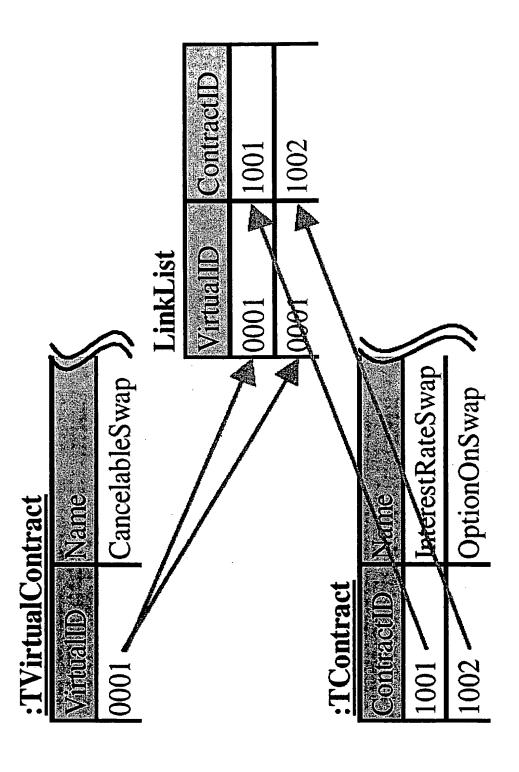
AGREED RATE: z%

NOTIONAL PRINCIPAL: 2 BILLION YEN

FIG. 9

# :TVirtualContract Name: InterestRateSwap 001 Counterparty: ABC Bank NotionalConvFactor: 1 LinkList InterestRateSwap:TContract :TVirtualContract Name: InterestRateSwap 002 Counterparty: DEF Bank NotionalConvFactor: 2 LinkList

FIG. 10



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FIG. 11

VIRTUALDEAL		
FIELD NAME	TYPE	REMARKS
VIRTUAL_ID	INTEGER	VIRTUAL TRANSACTION INSTANCE IDENTIFICATION CODE (AUTOMATIC GENERATION)
FREE_ID1	VARCHAR	USER DEFINITION ID USE RECOMMENDED AS TRANSACTION IDENTIFICATION CODE
FREE_ID2	VARCHAR	USER DEFINITION ID USE RECOMMENDED AS TRANSACTION CLASSIFICATION CODE
FLDR1_NAME	VARCHAR	TRANSACTION STORAGE PARENT FOLDER NAME
FLDR2_NAME	VARCHAR	TRANSACTION STORAGE CHILD FOLDER NAME
FREE_NAME	VARCHAR	USER DEFINITION NAME USE RECOMMENDED AS NAME FOR INDIVIDUAL TRANSACTION
REGISTDATE	DATE	ENTRY DATE AND TIME (AUTOMATIC GENERATION)
CTRPTY_ID	VARCHAR	TRANSACTION PARTY ID

INDIVDEAL	]	
FIELD NAME	TYPE	REMARKS
INDIV_ID	INTEGER	ENTITY TRANSACTION INSTANCE IDENTIFICATION CODE (AUTOMATIC GENERATION)
KIND	VARCHAR	TRANSACTION TYPE NAME

DEAL KIND		
FIELD NAME	TYPE	REMARKS
KIND	VARCHAR	TRANSACTION TYPE NAME
TYPE	CHAR	CLASS IDENTIFICATION CODE IN CLASS LIBRARY

LINKLIST	7	
FIELD NAME	TYPE	REMARKS
VIRTUAL_ID	INTEGER	VIRTUAL TRANSACTION INSTANCE IDENTIFICATION CODE (AUTOMATIC GENERATION)
INDIV_ID	INTEGER	ENTITY TRANSACTION INSTANCE IDENTIFICATION CODE (AUTOMATIC GENERATION)

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FIG. 13

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ATTRIBUTE	EXPLANATION
PaymCenters	HOLIDAY EXCLUSION CITY LIST FOR RECEIPT/PAYMENT DATE
FixCenters	HOLIDAY EXCLUSION CITY LIST FOR PRICE SETTLEMENT DATE
EDate	EFFECTIVE DATE
TDate	MATURITY DATE
FDate	NEXT RECEIPT/PAYMENT DATE
BDConv	HOLIDAY EXCLUSION SYSTEM (Preceding / Following / Modified , ETC.)
EndEnd	END-OF-MONTH ROLL SPECIFICATION
AdjTDate	HOLIDAY EXCLUSION SPECIFICATION FOR MATURITY DATE
CFFrq	RECEIPT/PAYMENT FREQUENCY
ResetFrq	RESET FREQUENCY
FixingOffset	OFFSET DATE FOR PRICE SETTLEMENT DATE
FixingBasis	BASE FOR DETERMINING PRICE SETTLEMENT DATE
PayIn	BASE FOR DETERMINING RECEIPT/PAYMENT DATE
CFList	REFERENCE TO TCF INSTANCE LIST
AppliedUnit	UNIT OF APPLICABLE CURRENCY, SECURITIES, GOODS, ETC.
DiscCurve	DISCOUNT CURVE
PriceCurve	PRICE CURVE
IniPrincAmnt	INITIAL PRINCIPAL EXCHANGE AMOUNT
FinPrincAmnt	FINAL TERM PRINCIPAL EXCHANGE AMOUNT
VarNotional	SPECIFYING Variable Notional Principal
AddMargin	SPECIFYING MARGIN CARRY-OVER SYSTEM
NotionalAmnt	NOTIONAL PRINCIPAL AMOUNT
IndexType	INDEX TYPE (IntRate/Return/Price)
FloatIndex	VARIABLE/FIXED INDEX SECTION
IndexVal	INDEX VALUE
IndexUnit	INDEX UNIT (%/b.p./decimal)
DayCount	DAILY COMPUTATION SYSTEM (Bond / Act/360/ Act/Act, Act/365Fixed,EuroBond, ETC.)
Rounding	ROUNDING OFF/TRUNCATION SPECIFICATION
DecPlaces	ROUNDING OFF/TRUNCATION DIGIT SPECIFICATION

FIG. 14

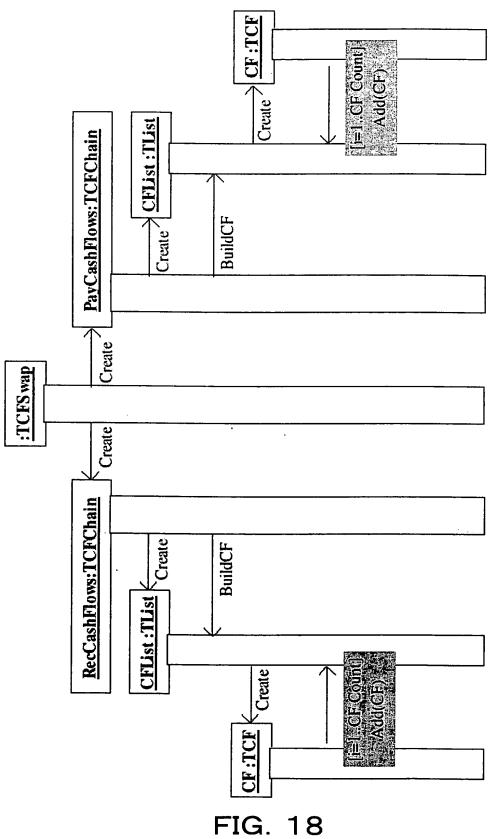
TCFCHAIN	]	
FIELD NAME	TYPE	REMARKS
TCFCHAIN_ID	INTEGER	TCFCHAIN INSTANCE IDENTIFICATION CODE
INDIV_ID	INTEGER	ENTITY TRANSACTION INSTANCE IDENTIFICATION CODE
SIDE_ID	CHAR	RECEIPT/PAYMENT SECTION CODE
EDATE	DATE	EffectiveDate
TDATE	DATE	TerminationDate
FDATE	DATE	FirstDate WHEN Stub IS SPECIFIED
BDCONV	SMALLINT	BusinessDayConvention IDENTIFICATION CODE
ENDEND	CHAR	EndRoll SPECIFICATION (LOGIC TYPE)
ADJTDATE	CHAR	TerminationDate AMENDMENT SPECIFICATION (LOGIC TYPE)
CFFRQ	SMALLINT	PaymentFrequency
RESETFRQ	SMALLINT	ResetFrequency
FIXINGOFFSET	INTEGER	NUMBER OF DAYS FOR Fixingdate
FIXINGBASIS	SMALLINT	ORIGINATING POINT OF Fixingdate
PAYIN	SMALLINT	Payment SYSTEM (Advance/Arrcar)
UNIT_CODE	VARCHAR	RECEIPT/PAYMENT CURRENCY
DISCCURVE	DATE	DISCOUNT CURVE, INSTANCE IDENTIFICATION CODE NOTE) USING DATE VALUE AS CODE
PRICECURVE	DATE	PRICE CURVE, INSTANCE IDENTIFICATION CODE NOTE) USING DATE VALUE AS CODE
INIPRINCAMNT	NUMERIC(15,2)	ACTUAL EXCHANGE PRINCIPAL (Initial)
FINPRINCAMNT	NUMERIC(15,2)	ACTUAL EXCHANGE PRINCIPAL (Final)
VARNOTIONAL	CHAR	VariableNotionalPrincipal SPECIFICATION (LOGIC TYPE)
ADDMARGIN	CHAR	MARGIN CARRY-OVER SPECIFICATION (LOGIC TYPE)
NOTIONALAMNT	NUMERIC(15,2)	NotionalAmount
INDEXTYPE	SMALLINT	INDEX TYPE RULE (Interest/Return/Price)
FLOATINDEX	CHAR	VARIABLE INDEX SPECIFICATION (LOGIC TYPE)
INDEXVAL	DOUBLE	INDEX VALUE (InterestRate,ReturnValue,Price)
INDEXUNIT	SMALLINT	INDEX UNIT (%/b.p./dec)
DAYCOUNT	SMALLINT	DayCountBasis (Act_365Fix/Act_Act_Act_360/30E_360/30_360)
ROUNDING	CHAR	ROUNDING OFF SPECIFICATION (LOGIC TYPE)
DECPLACES	SMALLINT	ROUNDING POSITION (NUMBER OF DIGITS OF DECIMAL POSITION)

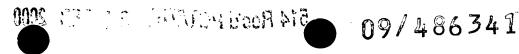
FIG. 15

ATTRIBUTE	EXPLANATION	
FloatIndex	VARIABLE/FIXED INDEX SECTION	
DateFrom	ACCOUNTING PERIOD STARTING DATE	
DateTo	ACCOUNTING PERIOD ENDING DATE	
PreFixing	PRIOR TERM VALUE SETTLEMENT DATE	
Fixing	CURRENT TERM VALUE SETTLEMENT DATE	
Days	NUMBER OF DAYS OF ACCOUNTING PERIOD	
Years	NUMBER OF YEARS OF ACCOUNTING PERIOD	
PaymDate	RECEIPT/PAYMENT DATE	
PrePrice	PRIOR TERM PRICE INDEX	
Price	CURRENT TERM PRICE INDEX	
Return	EARNING RATE	
IntRate	INTEREST VALUE	
Margin	MARGIN VALUE	
Weight	WEIGHT INDEX	
NotionalAmnt	NOTIONAL PRINCIPAL AMOUNT	
IndexCF_FV	RECEIPT/PAYMENT AMOUNT BASED ON INDEX	
MarginCF_FV	RECEIPT/PAYMENT AMOUNT BASED ON MARGIN	
NonIndexCF_FV	RECEIPT/PAYMENT AMOUNT INDEPENDENT OF INDEX	
TotalCF_FV	TOTAL RECEIPT/PAYMENT AMOUNT	
TotalCF_PV	CURRENT VALUE OF TOTAL RECEIPT/PAYMENT AMOUNT	
DF	DISCOUNT FACTOR (METHOD POINTER TO GetFactor)	

FIG. 16

TCF	]	
FIELD NAME	TYPE	REMARKS
TCF_ID	INTEGER	TCF INSTANCE IDENTIFICATION CODE
INDIV_ID1	INTEGER	ENTITY TRANSACTION INSTANCE IDENTIFICATION CODE
SIDE_ID	CHAR	RECEIPT/PAYMENT SECTION CODE
FLOATINDEX	CHAR	VARIABLE INDEX SPECIFICATION (LOGIC TYPE)
DATEFROM	DATE	CalculationPeriod STARTING DATE
DATETO	DATE	CalculationPeriod ENDING DATE
DAYS	INTEGER	NUMBER OF DAYS OF PERIOD
YEARS	DOUBLE	YearFraction
PAYMDATE	DATE	RECEIPT/PAYMENT DATE
PREFIXING	DATE	PREVIOUS FixingDate NOTE) EFFECTIVE ONLY FOR FloatIndex
FIXING	DATE	FixingDate NOTE) EFFECTIVE ONLY FOR FloatIndex
PREPRICE	DOUBLE	PREVIOUS PRICE
PRICE	DOUBLE	PRICE
RETURN	DOUBLE	EARNING RATE
INTRATE	DOUBLE	INTEREST VALUE NOTE) STORED ONLY FOR FixedRate
MARGIN	DOUBLE	MARGIN VALUE
WEIGHT	DOUBLE	WEIGHT VALUE
NOTIONALAMNT	NUMERIC (15,2)	NotionalAmount NOTE) STORED ONLY FOR FixedNotional
INDEXCF_FV	NUMERIC (15,2)	INDEX RELATED CASH FLOW (FUTURE VALUE) NOTE) EFFECTIVE ONLY WHEN FixedIndex
MARGINCF_FV	NUMERIC (15,2)	MARGIN CASH FLOW (FUTURE VALUE)
NONINDEXCF_FV	NUMERIC (15,2)	CASH FLOW FOR NON-INDEX (FUTURE VALUE)
TOTALCF_FV	NUMERIC (15,2)	TOTAL RECEIPT/PAYMENT AMOUNT ON CORRESPONDING RECEIPT/PAYMENT DATE (FUTURE VALUE) NOTE) EFFECTIVE ONLY FOR FixedIndex





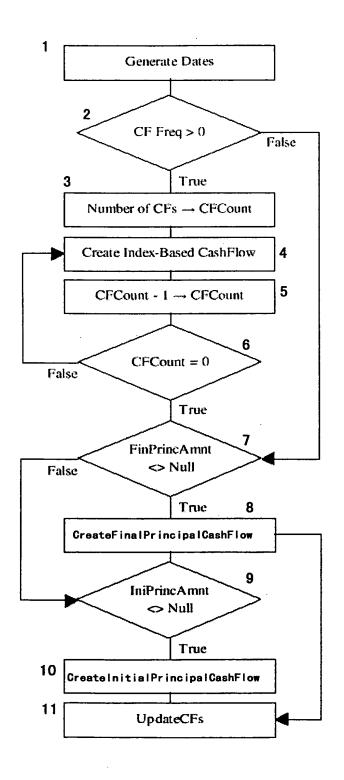


FIG. 19

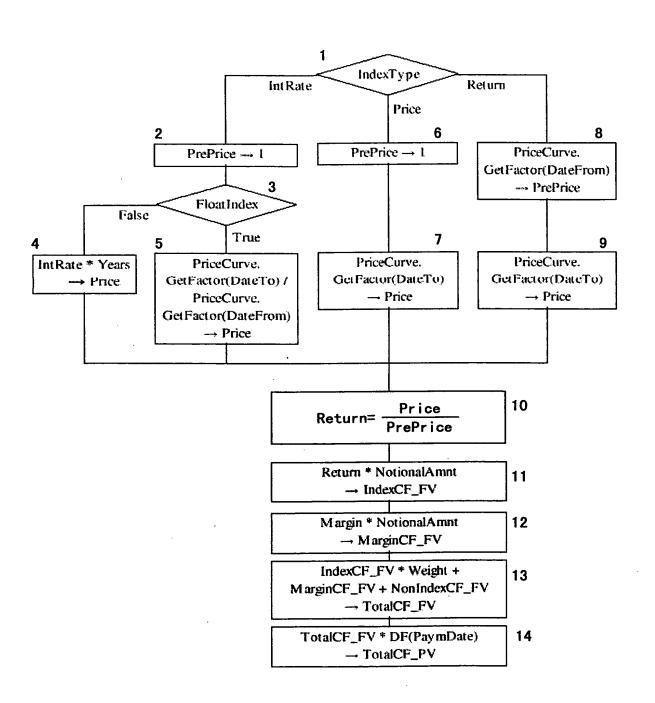


FIG. 20

TRANSACTION CASES
EXCHANGE, SHARES, GOODS SPOT/OUTRIGHT FORWARD
DISCOUNT BOND, SHARES, FORWARD GOODS
INTEREST SWAP, COUPON SWAP
INTEREST BOND, CASH LOAN, SHARES, FORWARD GOODS
CURRENCY SWAP

#### **TOption**

DiscCurve: TCntYieldCurve
VolaCurve: TCntVolaCurve
StrikeTarget: TStrikeTarget
DayCountBasis: TDayCountBasis
PricingParams: TOptParams
Buy Sell: TBuy Sell
Underlyings: TList

GetParams: TOptParams; virtual SetParams: virtual GetNPV: double; virtual



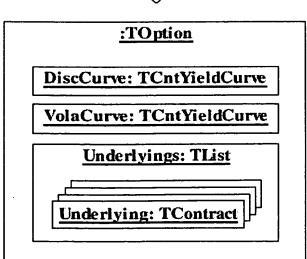


FIG. 22

ATTRIBUTE	EXPLANATION	
DiscCurve	DISCOUNT CURVE	
VolaCurve	VOLATILITY CURVE	
StrikeTarget	STRIKE TARGET (ATTRIBUTE FOR SPECIFICATION OF VARIABLE PARAMETER OF ORIGINAL ASSET TO BE COMPARED WITH OPTION RIGHT EFFECTIVE PRICE)	
DayCountBasis	DAILY ACCOUNTING SYSTEM	
PricingParams	PARAMETER GROUP NECESSARY FOR PRICE EVALUATING METHOD	
BuySell	BUY/SELL SECTION	
Underlyings	CONTAINER FOR STORING ORIGINAL ASSET (LINK LIST)	
METHOD	EXPLANATION	
GetParams	OBTAINING PARAMETER GROUP FROM ATTRIBUTE PricingParams	
SetParams	SETTING PARAMETER GROUP AT ATTRIBUTE PricingParams	
GetNPV	PERFORMING PRICE EVALUATION (CURRENT PRICE EVALUATION)	

FIG. 23

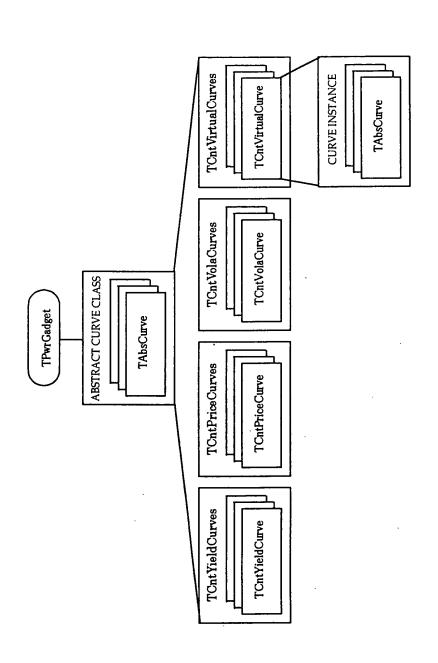


FIG. 24



FIG. 25

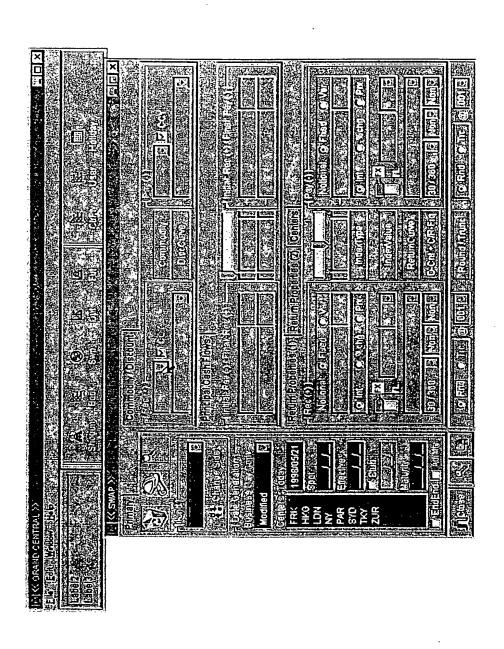


FIG. 26

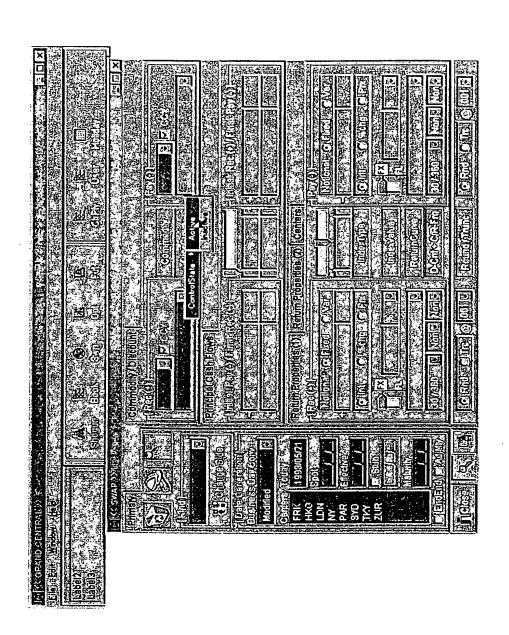


FIG. 27

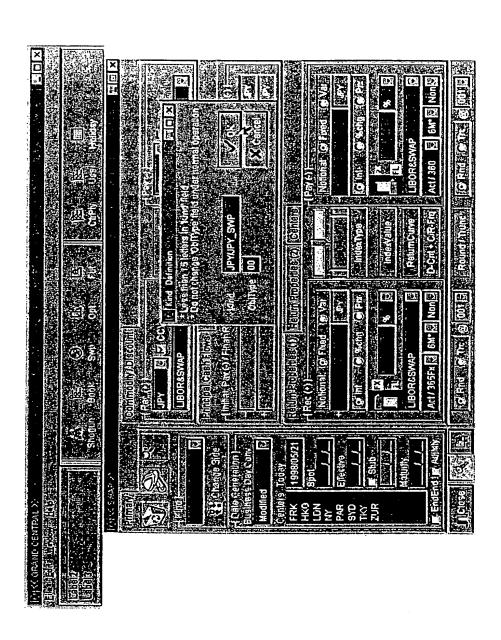


FIG. 28

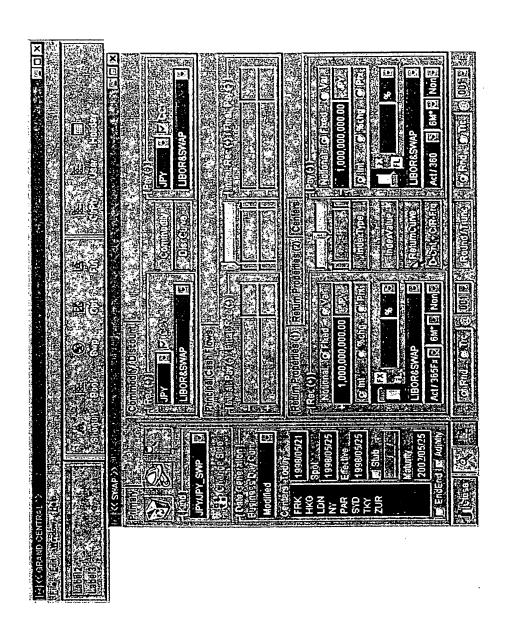


FIG. 29

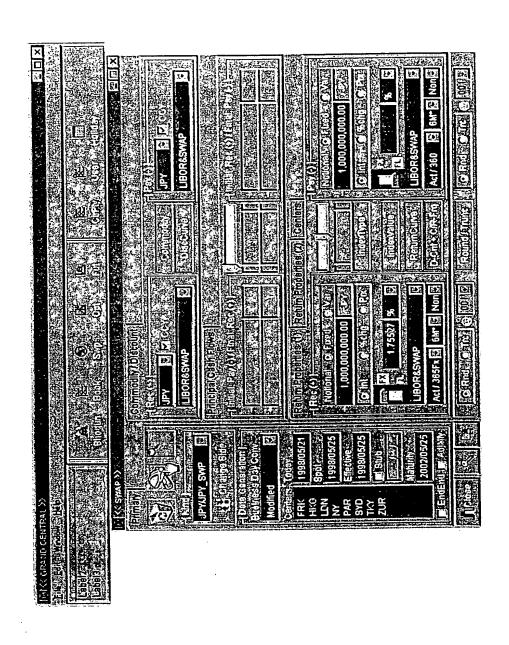


FIG. 30

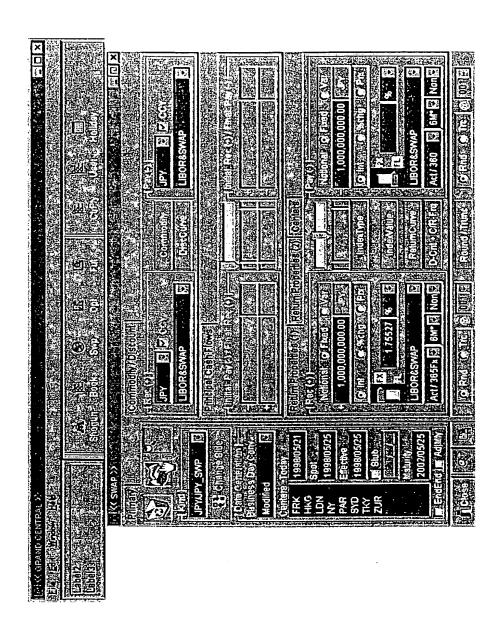


FIG. 31

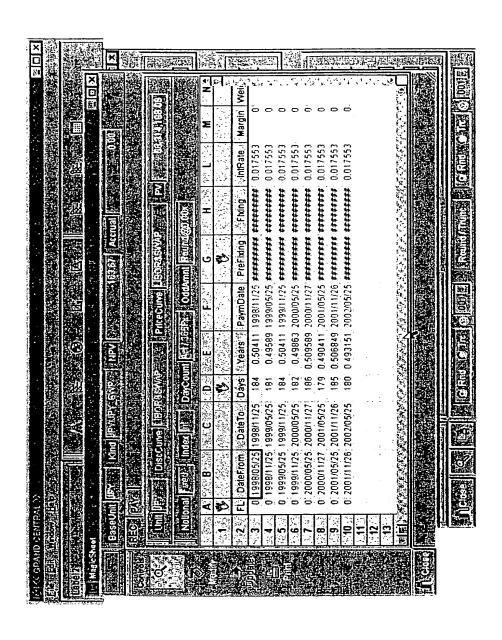


FIG. 32

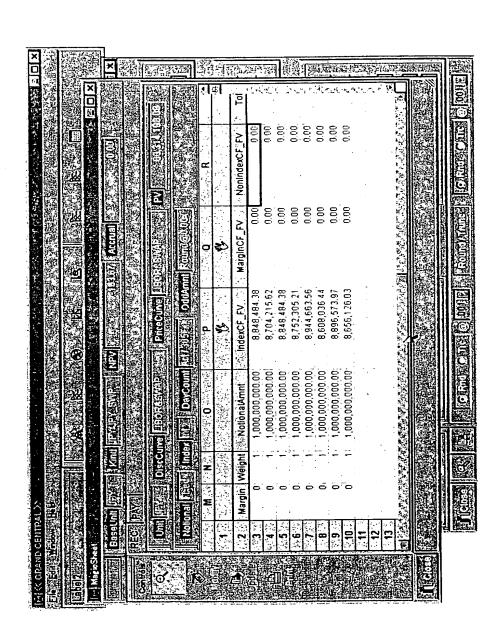


FIG. 33

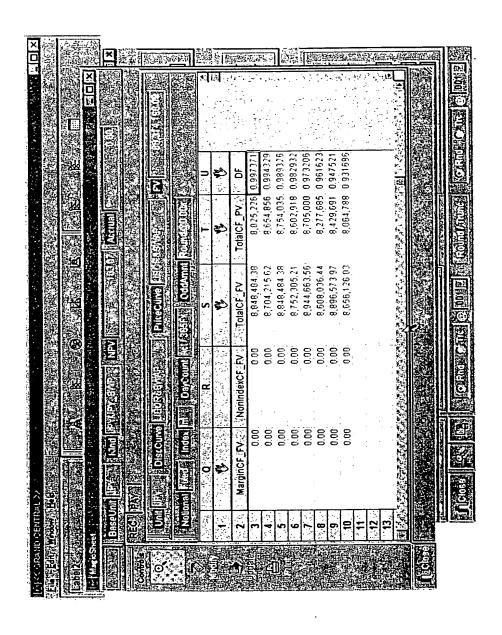


FIG. 34

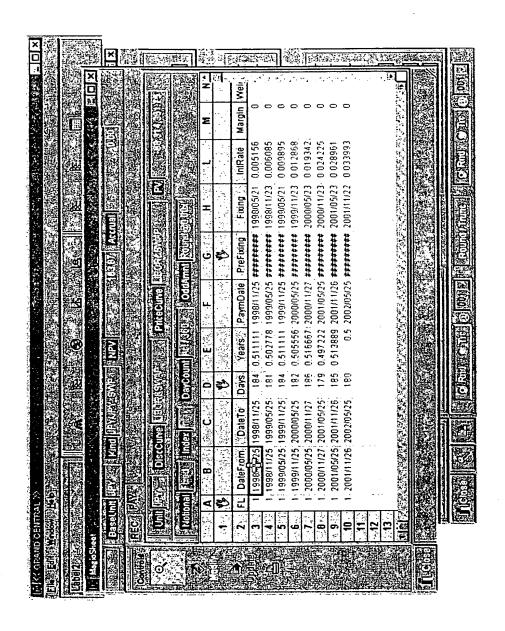


FIG. 35

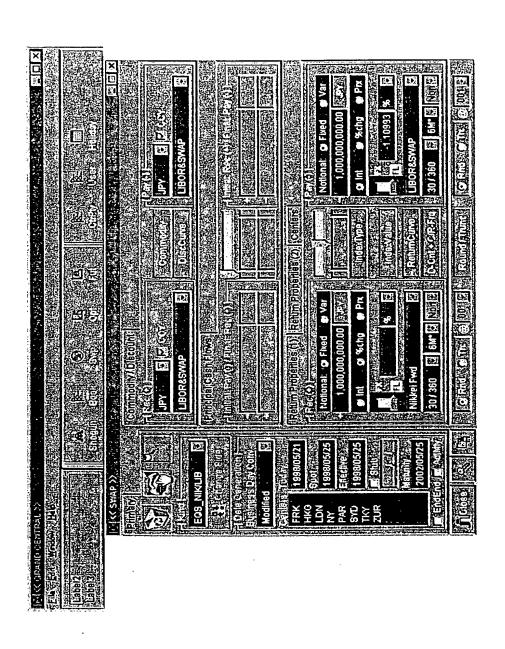


FIG. 36

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FIG. 37

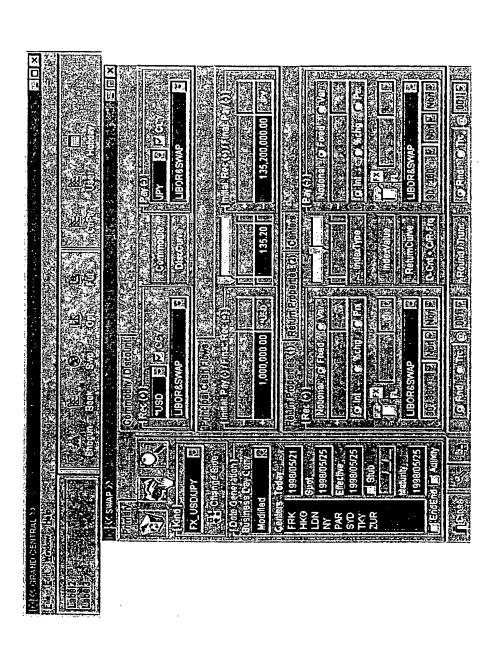


FIG. 38

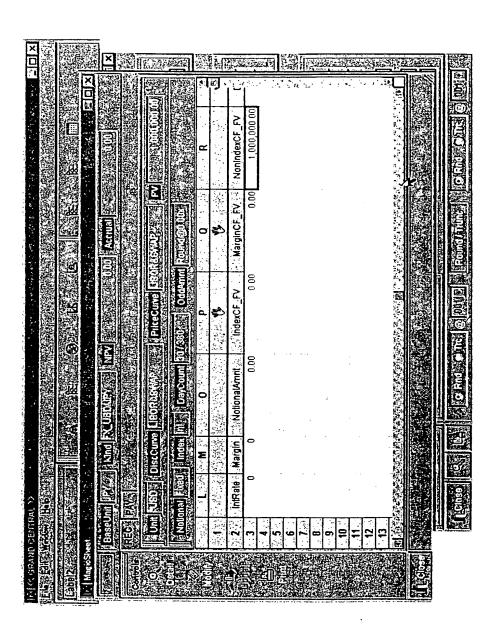


FIG. 39

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FIG. 40

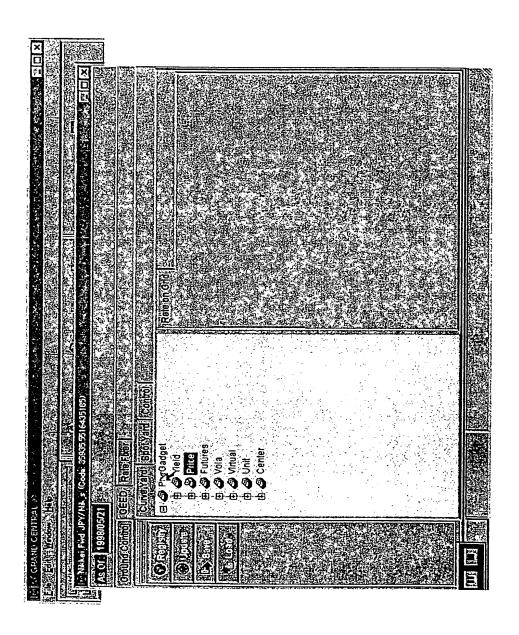


FIG. 41

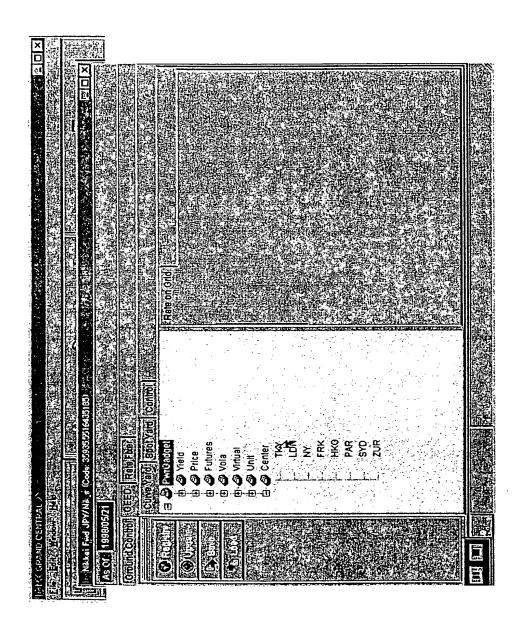


FIG. 42

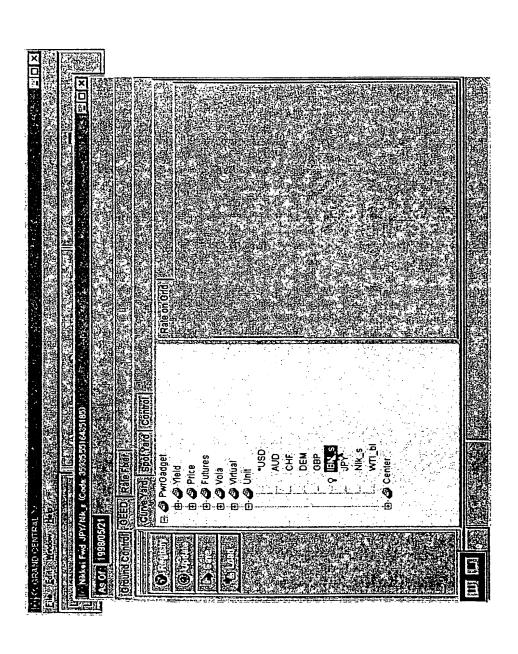


FIG. 43

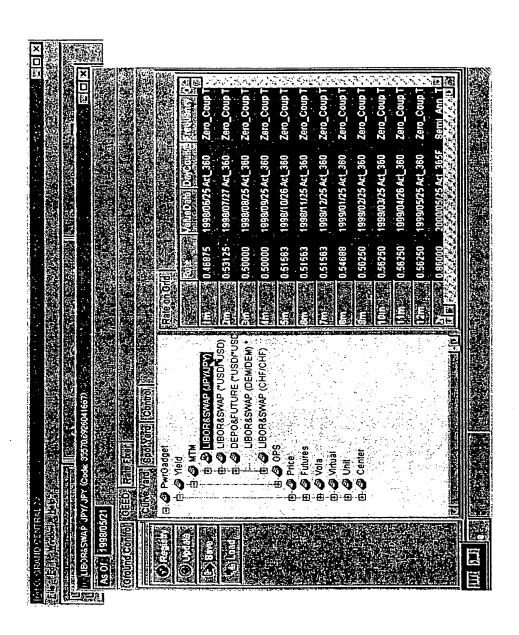


FIG. 44

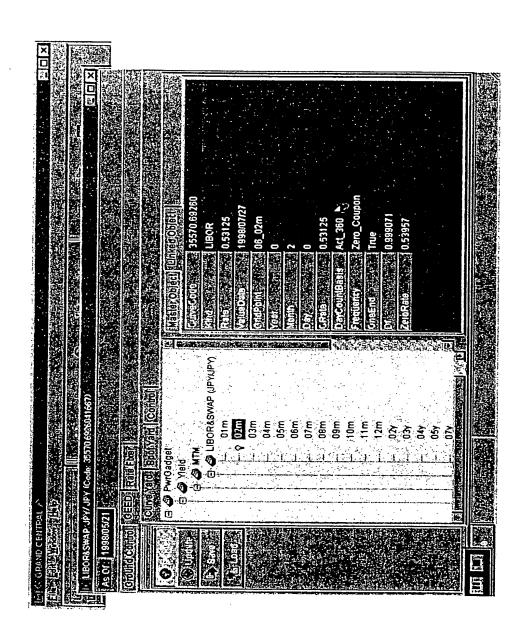


FIG. 45

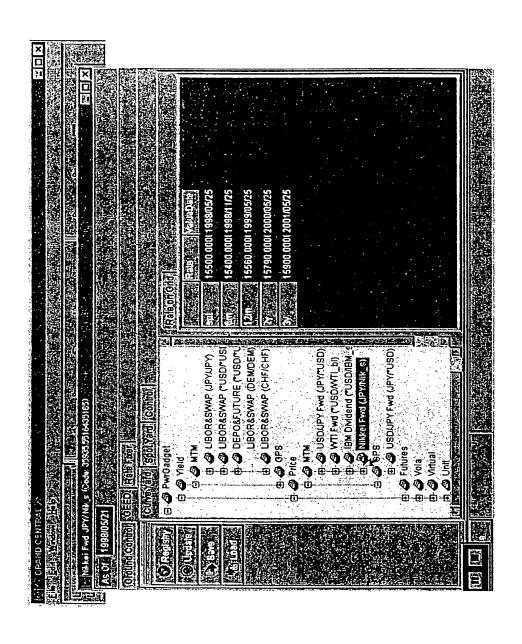


FIG. 46

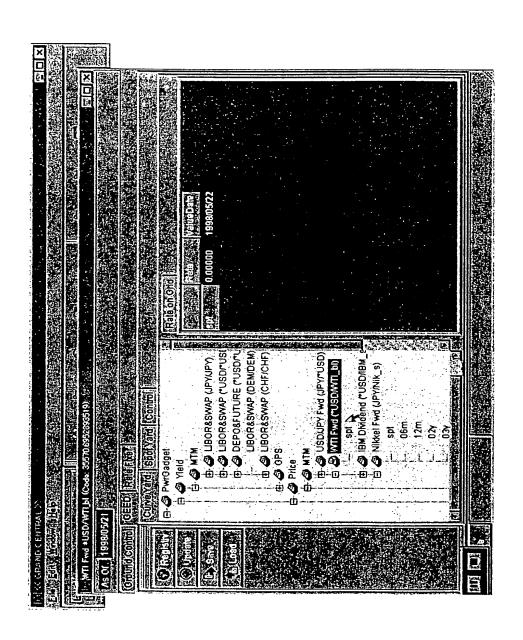


FIG. 47

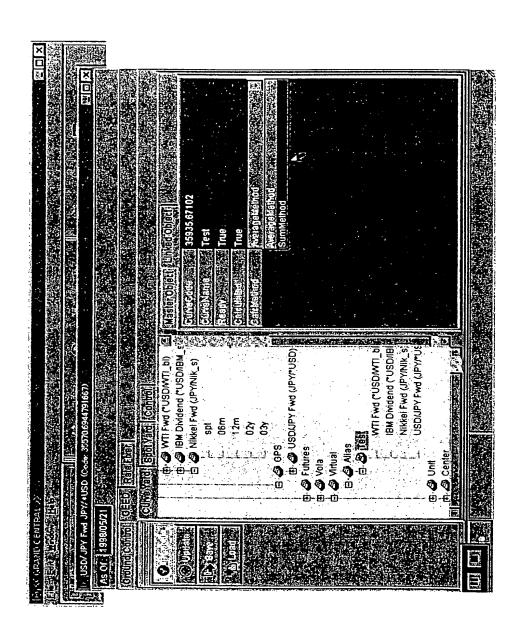


FIG. 48

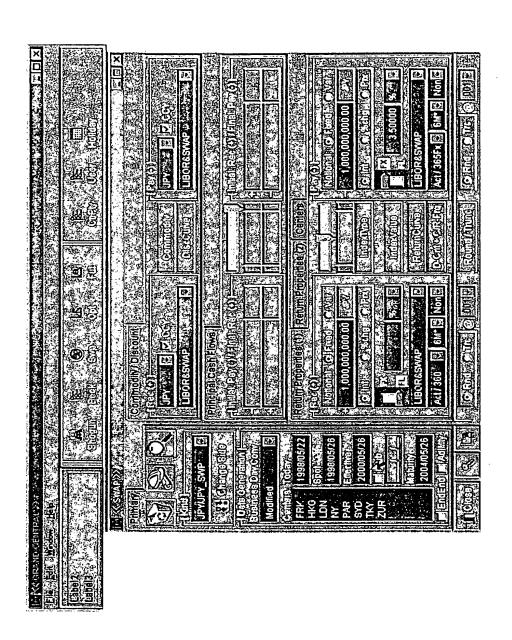


FIG. 49

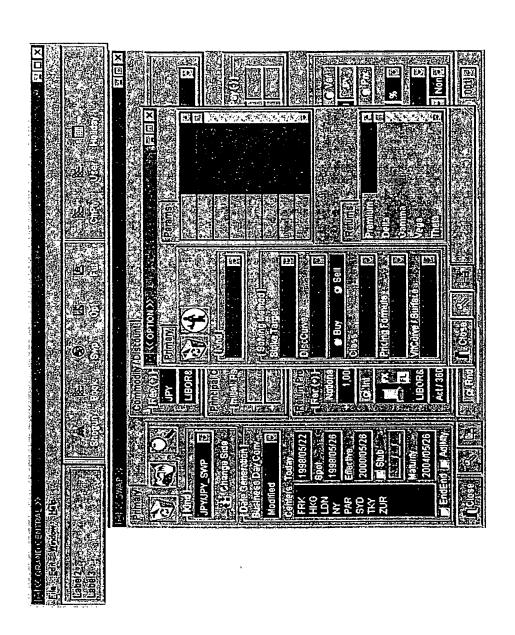


FIG. 50

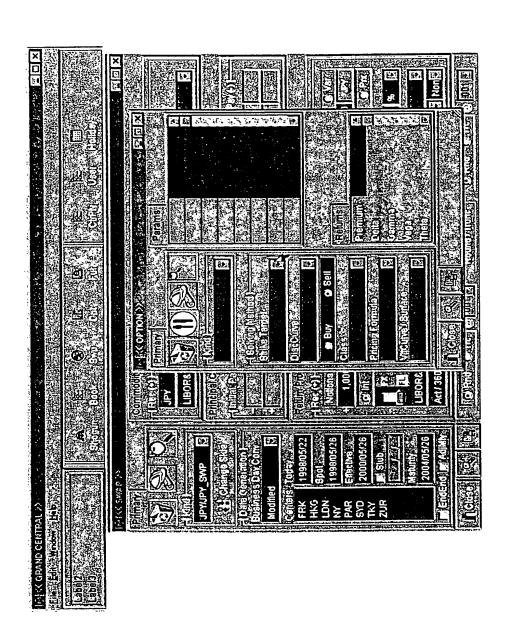


FIG. 51

# 000\$ 03373 075009 brosh \$18

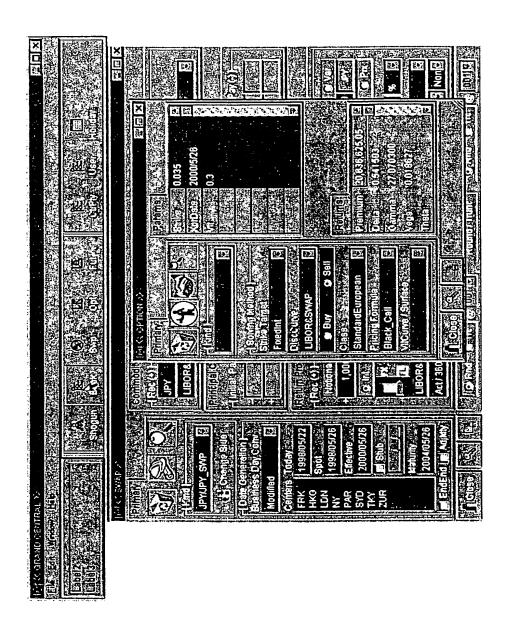


FIG. 52

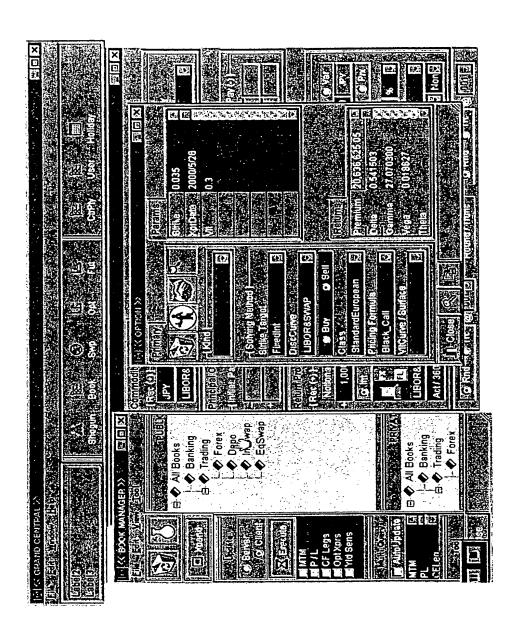


FIG. 53

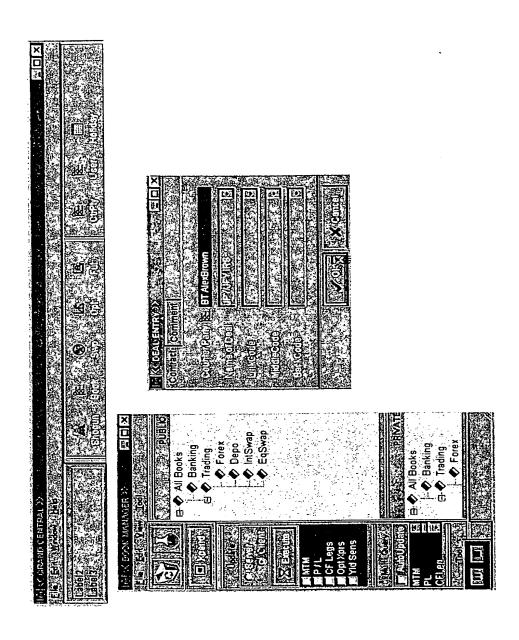


FIG. 54

# 4 Rech POTIPIO 2 5 TEB 2

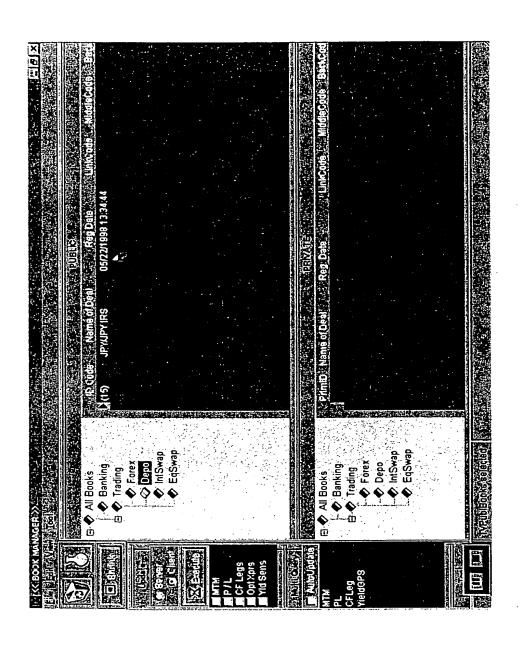


FIG. 55

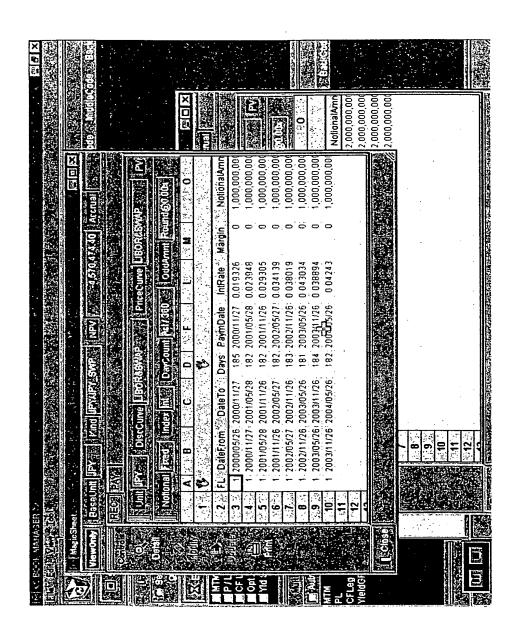


FIG. 56

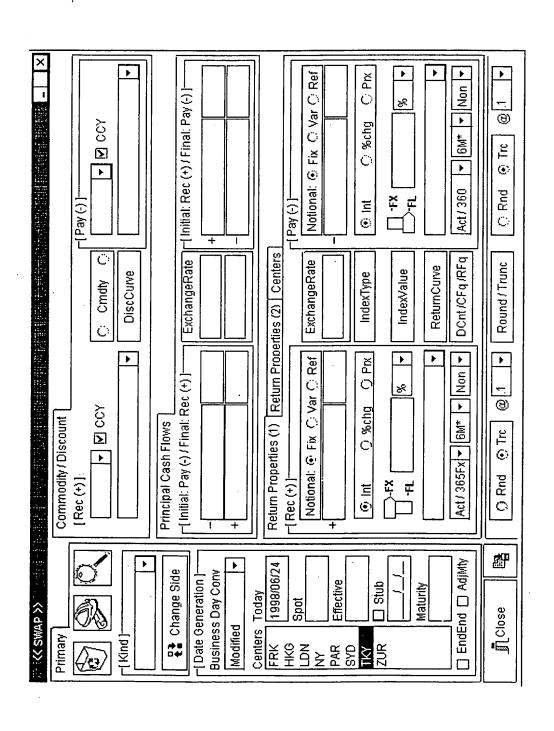


FIG. 57